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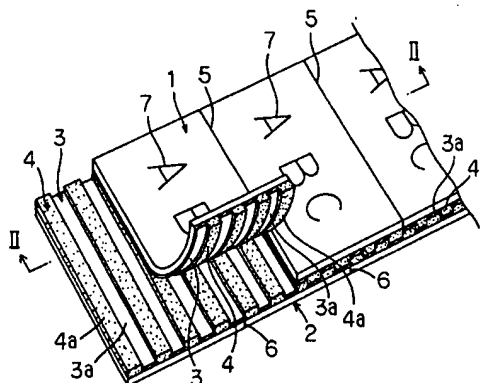
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**AT BE CH DE DK ES FR GB IT LI NL**(71) Applicant: **KO-PACK CORPORATION**  
**2-11, Kanda-Tacho, Chiyoda-ku**  
**Tokyo(JP)**(72) Inventor: **Kobayashi, Junichi**  
**3-25-10, Mejiro Toshima-ku**  
**Tokyo(JP)**(74) Representative: **Prüfer, Lutz H., Dipl.-Phys. et**  
**al**  
**Harthausen Strasse 25d**  
**W-8000 München 90(DE)**(54) **Labelling product using adhesive seal.**

(57) A labelling product with adhesive seal comprises a plural number of support sheets, each of which is provided with a space for printing necessary label description and is integrally bonded with the other by means of a release agent and an adhesive coated on the back thereof. The release agent and the adhesive are so arranged on the backs of respective support sheets that the release agent on one of the sheets comes in contact with the adhesive on the other sheet. Both the top and the bottom sheets can function as a label to be attached on an object such as a commodity by means of the adhesive, and also as the support for the other sheet.

**FIG. 1****EP 0 512 153 A2**

## BACKGROUND OF THE INVENTION AND RELATED ART STATEMENT

The present invention relates to a labelling product using adhesive seal which comprises a printed sheet of labelling paper, film and the like on which necessary descriptions are printed such as labels, tags or display cards, and a release paper coated with a release agent and on which is bonded said sheet of labelling paper and the like, and which is used by removing the release paper from the labelling paper with printed description and pasting the labelling paper on an object such as commodities.

As one example of prior art labelling product using adhesive seal, self-adhesive labels are widely known which comprise a release paper coated with a silicone release agent on its surface, and a base sheet coated with an adhesive on the back and whose surface forms a printed label, the two members being pasted together. Beside the self-adhesive labels, there are also various other labelling products using adhesive seal of which the base sheet coated with adhesive is detachably superposed on the surface of a release paper coated with a release agent.

According to prior art, a sheet with printed description for labelling purpose is pasted on its back with the surface of a release paper, so that the portion with the printed description is detached from the release paper and pasted on a commodity, a container and the like for use. Thus, the release paper acts solely as a support for retaining the shape of the sheet with printed description until the latter is put into use.

Thus, the labelling product with adhesive seal according to prior art includes the release paper as an indispensable component member. However, since the release paper is merely used as the support for retaining the shape of the sheet with printed description until the latter is put into use, the former is discarded as useless once the labelling sheet is detached therefrom and pasted on a commodity, a container and the like.

Because high grade paper such as glassine paper made of densely arranged short fibers is often used as the release paper to prevent excessive infiltration of expensive silicone, it is a gross waste in terms of effective use of resources to discard the release paper after the printed sheet has been detached and used as a label.

As one way of utilizing the used release paper, it is possible to collect and recycle the waste paper, as is done with other types of paper in general. However, as mentioned above, the release paper is coated with silicone on the surface and is quite dense with closely arranged short fibers, making it difficult to dissolve the same in the re-

generation process as compared with other types of paper. Even if it did become dissolved, short fibers are easily washed off and yield of fiber recovery decreases. Recovery ratio of regenerated paper is therefore low, making the release paper unsuitable for recycling. Even though perfectly blank as it is on the surface, the release paper has therefore been collected and put to disposal by incineration instead of being utilized as regenerated paper.

## SUMMARY OF THE INVENTION

The present invention aims at obviating the problems encountered in the prior art labelling products as mentioned above and providing a labelling product comprising two support sheets with adhesive seal that are printed with labelling descriptions and are bonded together, so that both supports can be effectively used without being discarded as in the case of prior art release paper.

As a concrete means of achieving the object, the present invention comprises two support sheets on the surface and the rear surface that are bonded together. The back of each support sheet is provided with alternating strips of release agent and adhesive. The arrangement of alternating strips of release agent and adhesive agent on the top and the bottom support sheets is such that the strips of release agent on one of the supports will come in contact with the strips of adhesive on the other when the two support sheets are put together into an integral form.

According to one embodiment of the present invention, the top and the bottom support sheets are both made of a sheet of paper that can be printed and are provided with plural strips of release agent and adhesive on the respective backs to be bonded with each other. The alternating strips of release agent and adhesive are so arranged that the strips of release agent on one of the support sheets will come in contact with the strips of adhesive on the other support when the two support sheets are bonded into an integral form.

According to another embodiment of the present invention, the top and the bottom support sheets are both made of a sheet of paper that can be printed and are provided with a set of plural blocks of release agent and adhesive disposed at a predetermined interval. The blocks are so arranged that those of release agent on one of the support sheets will come in contact with those of adhesive on the other when the two support sheets are put into an integral form.

According to still another embodiment of the present invention, the top and the bottom support sheets are both made of a sheet of paper that can

be printed, and release agent and adhesive are alternately provided on the back of each support sheet for an area that corresponds to the area on the respective surface thereof where printing is made. It is so arranged that the area of release agent on one of the support sheets comes in contact with the area of adhesive on the other when the two support sheets are put into an integral form. Perforations are provided along the border between the areas of release agent and of adhesive, and label description is printed on the surface of each support sheet at the area where said adhesive is provided at the back.

In the labelling product according to the present invention, the top and the bottom support sheets to be bonded together by means of adhesive are made of a common material such as paper that can be printed on its surface. Alternatively, one of the support sheets may be made of paper and the other of resin film. Release agent and adhesive are alternately provided at the back of both the top and the bottom support sheets to be bonded with each other. It is so arranged that release agent on one of the support sheets comes in contact with adhesive on the other, so that the support sheets are releasably bonded with each other while adequately supporting one another. Once released, each sheet can be pasted on the object such as commodities by means of adhesive provided thereon at the back. Thus, the labelling product with adhesive seal can be printed with labelling descriptions equally on the respective surface of the top and the bottom sheets.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of this invention will become apparent when taken in conjunction with description herebelow of some embodiments shown in the accompanying drawings.

Fig. 1 is a partial perspective view to show the construction of a labelling product with adhesive seal according to one embodiment of the present invention.

Fig. 2 is a sectional view taken along the line II-II of Fig. 1.

Fig. 3 is a perspective view to show another embodiment of the present invention.

Fig. 4 is a sectional view taken along the line IV-IV of Fig. 3.

Fig. 5 is a perspective view to show still another embodiment of the present invention.

Fig. 6 is a partial perspective view to illustrate the problem that must be considered when the present invention is to be embodied.

Fig. 7 is a partial sectional view to show means to solve the problem shown in Fig. 6.

Fig. 8 is a partial perspective view to show still

another embodiment of the present invention which is different from those shown in Figs. 1, 3 and 5.

Fig. 9 is a sectional view taken along the line IX-IX of Fig. 8.

Fig. 10 is a partial perspective view to show one variation of the embodiment shown in Fig. 8.

#### DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Preferred embodiments of labelling product with adhesive seal according to the present invention will now be described referring to the accompanying drawings. In Fig. 1, the labelling product according to the present invention when used as a label is shown in perspective. The labelling product in this embodiment comprises a top sheet 1 and a bottom sheet 2, both of which being made of paper that can be printed. On the backs of the top and the bottom sheets 1 and 2, strips of release agent 3 and adhesive 4 having a given width are alternately arranged in parallel.

As shown in Figs. 1 and 2, said release agent 3 and adhesive 4 to be provided on the back of the top and the bottom sheets 1 and 2 are plural strips 3a and 4a of the same width which is narrow as relative to the area of respective sheets. Strips 3a of the release agent 3 and strips 4a of the adhesive 4 are alternately arranged in parallel.

It is so arranged that strips 3a of the release agent 3 on one of the top and the bottom support sheets come in contact with strips 4a of the adhesive 4 on the other, so that when the two support sheets are bonded, strips 3a of the release agent on the top sheet come in contact with strips 4a of the adhesive 4 on the bottom sheet, and vice versa, to form an integral member.

In case the form of the top sheet 1 and the bottom sheet 2 are an elongated tape, perforations 5 and 6 are respectively made at a predetermined interval along the length thereof, and the surface of respective sheets 1 and 2 sectioned by the perforations is used as the spaces 7 and 8 for printing. The position of the perforations 5 on the top sheet 1 corresponds to the center of the printing space 8 on the bottom sheet 1; similarly, the position of the perforations 6 on the bottom sheet 2 corresponds to the center of the printing space 7 on the top sheet. In other words, the printing spaces 7 and 8 are staggered by half the width thereof, and are arranged along the entire length of the elongated top and the bottom sheets 1 and 2.

The printing spaces 7 and 8 thus formed are bonded with each other at the back via the alternately arranged strips of the release agent 3 and the adhesive 4, whereby each acts as an adequate support for the other. Moreover, by peeling off the printing space of either one of the sheets from the

other, the release agent 3 and the adhesive 4 become easily separated, and the printing space can be attached to an object such as a commodity by means of the adhesive 4 provided on its back.

Although in the embodiment shown in Figs. 1 and 2, strips 3a of the release agent 3 and strips 4a of the adhesive 4 on the top and the bottom sheets 1 and 2 are arranged perpendicular to the longitudinal direction of the sheets 1 and 2, these strips can be arranged parallel to the longitudinal direction of the sheets 1, 2. The arrangement of the strips 3a, 4a is not limited to the orthogonal or parallel direction, but may be diagonal thereto.

In the embodiment shown in Fig. 3, the printing spaces 7 and 8 are formed on the top and the bottom sheets 1 and 2 that are made of separate pieces of paper having a given size, unlike the first embodiment wherein the top and the bottom sheets 1 and 2 are elongated and continuous members. The arrangement of strips 3a and 4a of the release agent 3 and adhesive 4 on the top and the bottom sheets 1 and 2 is the same as in the first embodiment. However, the line of perforations 5 on the top sheet intersects that of the perforations 6 on the bottom sheet 2. The surfaces of respective sheets 1 and 2 sectioned by these perforations 5 and 6 are used as the spaces 7 and 8 for printing. In other words, strips 3a and 4a on either one of the top and the bottom sheets 1 or 2 are arranged perpendicular to the direction of the strips on the other sheet.

It is noted that the release agent 3 and the adhesive 4 need not be in straight strips as in the case of the embodiments given above, but may be plural blocks 3b of the release agent 3 and blocks 4b of the adhesive 4 of suitable shape and size that are alternately arranged at a given interval as shown in Fig. 5. Although the blocks 3b and 4b are shown as square in Fig. 5, any other shape or pattern such as circles and polygons may be selected.

In the embodiments shown in Figs. 1 through 4, the release agent 3 and the adhesive 4 are provided on the back of the top and the bottom sheets 1 and 2 in the form of alternating and parallel strips 3a and 4a that are disposed closely with one another. When the top and the bottom sheets 1 and 2 are bonded together with respective strips 3a of the release agent 3 contacting with strips 4a of the adhesive 4, strips 4a of the adhesive 4 on the top sheet 1 come in close contact with strips 4a of the adhesive on the bottom sheet 2 at the edge as shown in Figs. 2 and 4, whereby the adhesive 4 at the edge of each strip would form threading 9 when the top and the bottom sheets are peeled off from each other.

If the threading 9 of the adhesive 4 occurs at the edge of strips 4a because of close contact

between these strips on the backs of the top and the bottom sheets 1 and 2, the unsightly threading 9 would be exposed on the surfaces of the top and the bottom sheets 1 and 2 when they are peeled off from each other, deteriorating the appearance. This bonding of adhesive strips on the top and the bottom sheets 1 and 2 also gives rise to resistance against the pulling force to separate the top and the bottom sheets 1 and 3, making it difficult to remove a label off the sheet.

As one means of overcoming the defect caused by threading 9 of the adhesive on the top and the bottom sheets 1 and 2 when they are to be separated, a very narrow gap 10 is preferably provided at each border line between the strips 3a and 4a, as shown in Fig. 7 on both the top and the bottom sheets 1 and 2. As the gap 10 is not coated with the adhesive 4, strips 4a of the adhesive 4 on one of the sheets 1 or 2 do not come in contact with the strips on the other sheet at respective edge, so that threading 9 of the adhesive 4 as mentioned above would not occur at the border lines when the top and the bottom sheets are pulled apart, enabling smooth peeling off thereof.

Fig. 8 shows still another embodiment of the present invention. In the labelling product according to this embodiment, the top sheet 11 and the bottom sheet 12 are made of a base sheet of an elongated paper tape, similarly as in the case of the embodiment shown in Fig. 1. The area of release agent 13 and adhesive 14 to be coated at the backs of both the top and the bottom sheets 11 and 12 has a size comparable to the size of the printing spaces 17 and 18 on the surfaces of the top and the bottom sheets 11 and 12; for example, the length of the sides of an area is substantially the same as the length of the sides of the printing area 17 or 18. The areas of the adhesive agent 13 and the release agent 14 are arranged one after the other in the longitudinal direction.

Similarly as in other embodiments, it is so arranged that the areas of the release agent 13 on one of the top and the bottom sheets 11, 12 come in contact with the areas of adhesive 14 on the other. When the top and the bottom sheets 11 and 12 are bonded, the release agent 13 on the top sheet 11 comes in contact with the corresponding adhesive 14 on the bottom sheet 12, and vice versa, to form an integral member.

Perforations 15 and 16 are provided at the border line between areas of the release agent 13 and the adhesive 14 along the width of the top and the bottom sheets 11 and 12. Among the spaces thus sectioned by the perforations on both the top and the bottom sheets 11 and 12, spaces 11a and 12a of the top and the bottom sheets 11 and 12 respectively which come in contact with the adhesive 14 at the back are used as the printing areas

17 and 18 respectively.

Similarly as shown in Fig. 9, a very narrow gap 19 is preferably provided at each border line between the areas of the release agent 13 and the adhesive 14 on both the top and the bottom sheets 11 and 12. As the gap 19 is not coated with the adhesive 14, adhesive areas on the backs of the top and the bottom sheets 11 and 12 would not come in contact with each other at the edge thereof, preventing threading of the adhesive 14 when the top and the bottom sheets are pulled apart. Although the printing spaces 17 and 18 on the top and the bottom sheets 11 and 12 are defined by the perforations 15 and 16 provided along the direction of the width of the sheets 11 and 12 in the above embodiment, the perforations can be provided to define frames 20, 21 at the areas of 11a and 12a which come in contact with the adhesive 14 on the back.

According to the embodiment shown in Figs. 8 and 10, the printing areas 17 and 18 that are coated with the adhesive 14 at their backs are peeled off from the corresponding areas 11b and 12b of the top and the bottom sheets respectively where the release agent 13 is provided to thereby be attached to an object such as a product. The areas 11b and 12b on the top and the bottom sheets which correspond to the printing spaces 17 and 18 act as the releasing paper for the spaces 17 and 18.

In the foregoing embodiments, the top and the bottom sheets 1 and 2, or 11 and 12 have been described as being made of paper as the base material that can be printed on the surface but are not limited to paper and various other materials such as synthetic resin may be used. Both sheets may be made of synthetic resin film; alternatively, one surface of the sheets may be made of paper and the other of synthetic resin film. Depending on the nature of the product, the printed spaces need not be provided on both sheets, but may be only on one side. The printed space need not be fully filled with description as in the ordinary labels, but may be provided with blank area such as in the voucher sheet where the user can freely fill in.

According to the present invention, the labelling product with adhesive seal comprises a top sheet and a bottom sheet that are bonded with each other at the respective backs where the release agent and the adhesive are provided in such a manner that the areas of release agent on one of the sheets come in contact with those of adhesive on the other, so that the top and the bottom sheets can be printed on their surfaces for effective utilization of the sheet material.

Unlike the prior art labelling products where one of the sheets is exclusively used as the support for the other, the present invention need not

use pure paper made of short fibers on which silicone is coated as the release paper. Nor is it necessary to coat the entire surface of the support with silicone as the release agent. Production cost decreases drastically according to the present invention as it allows use of inexpensive paper material and reduces the amount of silicone to one half. The present invention is further advantageous in that it makes use of the release paper as well instead of discarding the same. Even when a portion of the support sheet is left unused as the release paper and discarded, as in the cases shown in Figs. 8 and 10, the quality of the paper used is such that when the discarded support paper is collected for recycling, it can be easily dissolved and made into regenerated paper, greatly contributing to effective use of resources.

Although the present invention has been described by way of embodiments of labelling product, the present invention is applicable to various other purposes such as display, advertisement, sign, nameplate, card and voucher sheet.

## Claims

1. A labelling product comprising a top sheet and a bottom sheet that are integrally bonded together via a release agent and an adhesive interposed therebetween, which is characterized in that said release agent and the adhesive are provided on the backs of both the top and the bottom sheets in such an arrangement that the release agent on one of the top and the bottom sheets comes in contact with the adhesive on the other sheet.
2. The labelling product as claimed in Claim 1 wherein both the top and the bottom sheets are made of a material that can be printed on the surface, and the release agent and the adhesive are provided in plural straight strips that are so arranged that the strips of release agent on one of the sheets come in contact with the strips of adhesive on the other sheet to hold the top and the bottom sheets integrally bonded together.
3. The labelling product as claimed in Claim 1 wherein both the top and the bottom sheets are made of a material that can be printed on the surface, and the release agent and the adhesive are provided in plural blocks that are spaced apart at a given interval and that are so arranged that blocks of release agent on one of the sheets come in contact with the blocks of adhesive on the other sheet to hold the top and the bottom sheets integrally bonded together.

4. The labelling product as claimed in Claim 1 which is characterized in that both the top and the bottom sheets are made of a material that can be printed on the surface, the release agent and the adhesive are provided for an area of given size corresponding to the size of the space where the printing is made and are so arranged that the areas of release agent on one of the sheets come in contact with the areas of adhesive on the other sheet to hold the top and the bottom sheets integrally bonded together, perforations are made at the border lines between the areas of release agent and adhesive, and the surface areas on the sheets which come in contact with the adhesive at the back are used as the space for printing.
5. The labelling product as claimed in Claim 1 which is characterized in that a very narrow interval which is free of adhesive is provided at the border line between areas of release agent and adhesive provided at the backs of the top and the bottom sheets respectively.
6. The labelling product as claimed in Claim 1 wherein a space for printing is provided both on the top and the bottom sheets that are bonded together.

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FIG. 1

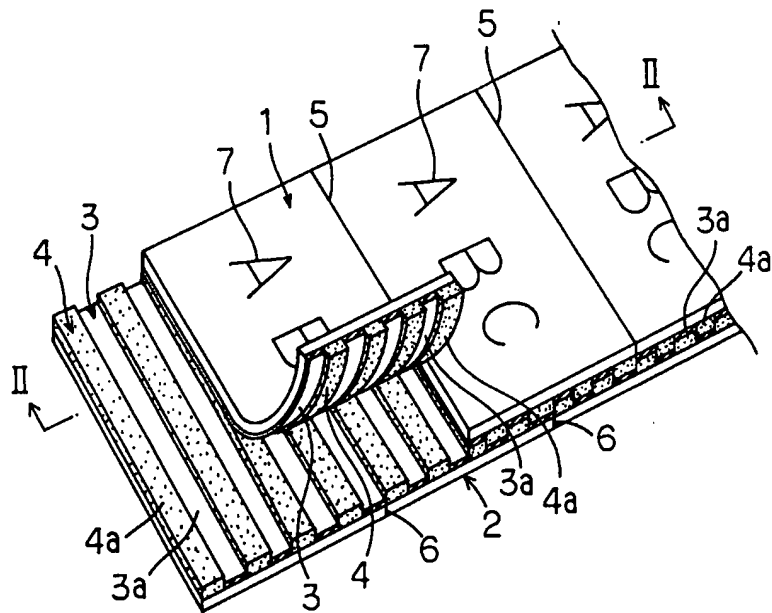


FIG. 2

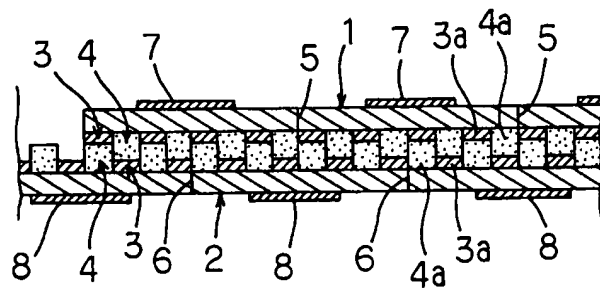


FIG. 3

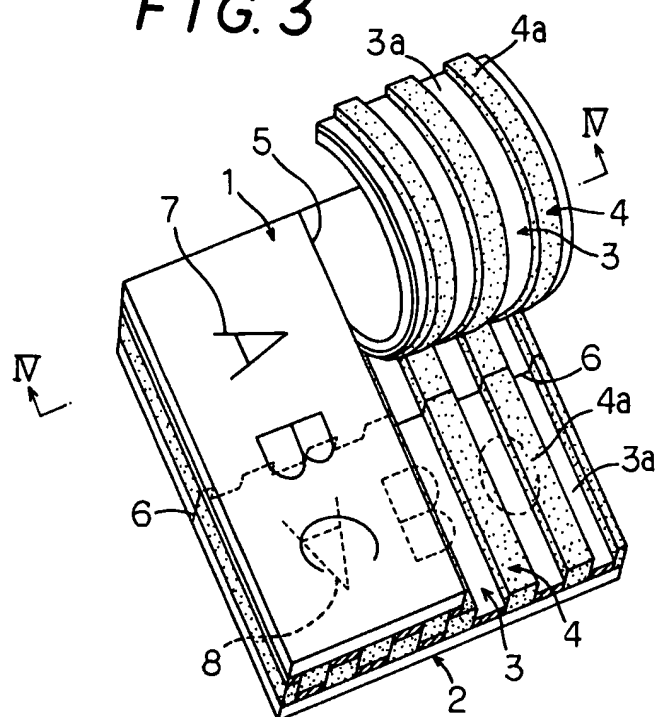


FIG. 4

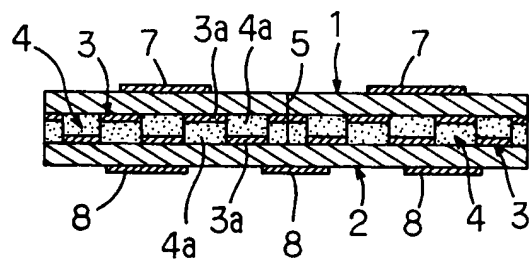




FIG. 5

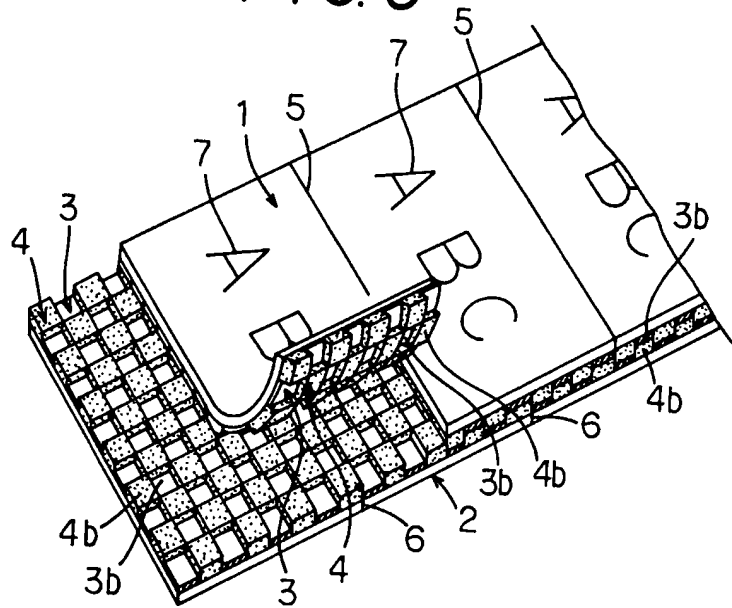


FIG. 6

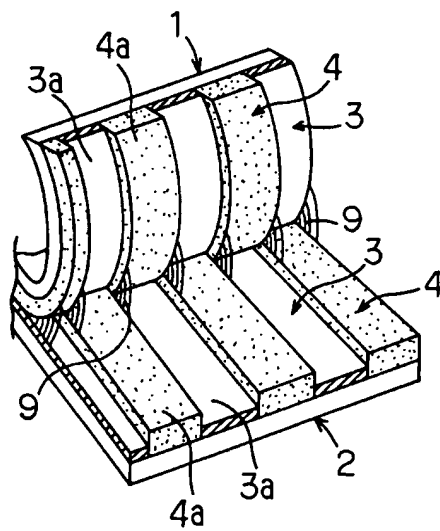


FIG. 7

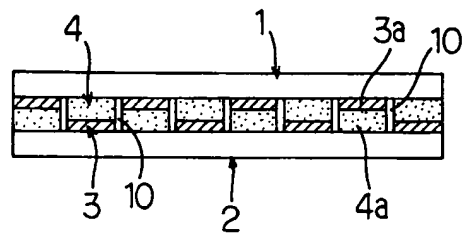


FIG. 8

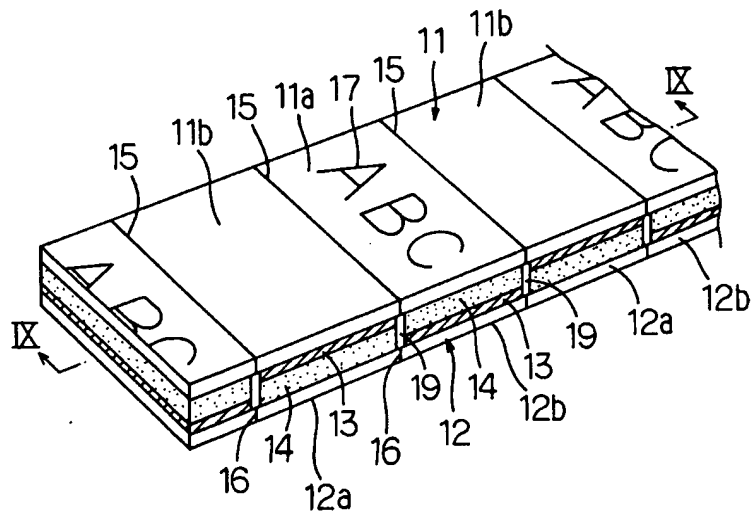


FIG. 9

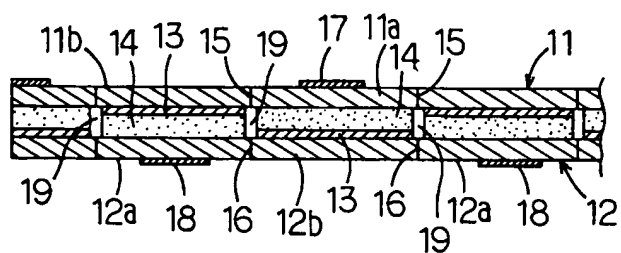


FIG. 10

